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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/530,075 | 08/30/2005 | Johan Rune | P17191US1 | 7540 |

27045 7590 12/04/2008

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| EXAMINER | |
|---|---|
| CRUTCHFIELD, CHRISTOPHER M | |
| ART UNIT | PAPER NUMBER |
| 2419 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 12/04/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/530,075 | RUNE, JOHAN | |
| | Examiner | Art Unit | |
| | Christopher Crutchfield | 2419 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *06 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *2-12,14-23,26 and 27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-12,14-23,26 and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 2-4, 9, 14-16, 20, 26 and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Edsall*, et al. (US Patent No. 6,741,592 B1) in view of The Cisco 7600 Optical Services Router Software Command Reference (Author Unknown, The Cisco 7600 Optical Services Router Software Command Reference, 31 December 2001, Pages 28-29).

**Regarding claim 26,** *Edsall* discloses a method in an access network for network comprising an access router (Figure 1, Elements 140, 143 and 146) and one or more switches, (Figure 1, Element 102) wherein the hosts are in communication contact with the access router via the switches, (Abstract) said method comprising the steps of:

a. Configuring Virtual Local Area Networks (VLANs) in the switches and defining in the switches, one asymmetric downlink VLAN, said downlink VLAN for carrying downlink traffic from the access router to the hosts, said downlink VLAN being common to all of the hosts connected to the access network (Abstract and Column 4, Lines 21-64). (The system of *Edsall* configures a common primary VLAN/Asymmetric Downlink VLAN that connects to all users of the switch [Column 4, Lines 21-64)]. Traffic is received from the access router/L3/L4 Device via the promiscuous port and is then sent to the appropriate user in the access network via the primary VLAN. The VLAN carries traffic coming from the router and going to the hosts, therefore, the asymmetric VLAN is for carrying downlink traffic from the hosts to the access router.)

b. Configuring the VLANs such that the hosts connected to the access network belong to the same IP subnet (Column 6, Lines 58-67). (The system of *Edsall* assigns the primary VLAN/Asymmetric Downlink VLAN to a single IP subnet, therefore all the hosts in the primary VLAN [which forms the access network] belong to the same subnet [Column 6, Lines 58-67].)

c. Forcing the switches to route traffic from the hosts through the access network, said forcing step comprising the VLANs forcing the switches to route uplink traffic from the hosts to the access router (Column 6, Lines 58-67). (All uplink traffic form the hosts must pass though the router, as direct communication among the hosts is prohibited by the isolated uplink VLAN status [Column 6, Lines 58-67].)

*Edsall* fails to disclose a method further comprising performing intra-subnet routing of the traffic, thereby forcing the switches to route traffic from the hosts through the access router and the access network and configuring the access router as an Address Resolution Protocol (ARP) proxy. In the same field of endeavor, The Cisco 7600 Optical Services Router Software Command Reference ("The 7600 command reference") discloses a method further comprising performing intra-subnet routing of the traffic, thereby forcing the switches to route traffic from the hosts through the access router and the access network and configuring the access router as an Address Resolution Protocol (ARP) proxy (ip local-proxy-arp command, Pages 28-29). (The local-proxy-ARP command is used to forward traffic between hosts on the same subnet when no routing is normally required.)

Therefore, since the 7600 command reference discloses the use of a local proxy ARP to enable communications between hosts on the same subnet that are otherwise unable to communicate, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the local proxy ARP of the 7600 command reference into the teachings of *Edsall* to thereby enable the forced routing of inter-host traffic through the router. The local proxy ARP of the 7600 command reference can be combined with the system of *Edsall* by setting up the VLANs as specified by *Edsall*, such that all traffic to and from the hosts is forced through the router, and then using local proxy ARP as taught by the 7600 command reference to enable communications between the different hosts. The motive to combine is to allow communication among the hosts.

**Regarding claim 27,** *Edsall* discloses a system comprising a plurality if hosts (Figure 1, Element 122, 126) connected to an access network, said system comprising:

a. An access router for providing the hosts with access to the access network (Figure 1, Elements 140, 143, 146).

b. At least one intermediate switch connected between the hosts and the access router (Figure 1, Element 102), said at least one switch comprising means for configuring Virtual Local Area Networks (VLANs) (Abstract and Column 4, Lines 21-64).

c. Wherein the means for configuring VLANs includes means for configuring one of the VLANs as an asymmetric downlink VLAN for carrying downlink traffic from the access router to the hosts, wherein the downlink VLAN is common to all of the hosts connected to the access network (Abstract and Column 4, Lines 21-64). (The system of *Edsall* configures a common primary VLAN/Asymmetric Downlink VLAN that connects to all users of the switch [Column 4, Lines 21-64)]. Traffic is received from the access router/L3/L4 Device via the promiscuous port and is then sent to the appropriate user in the access network via the primary VLAN. The VLAN carries traffic coming from the router and going to the hosts, therefore, the asymmetric VLAN is for carrying downlink traffic from the hosts to the access router.)

d. Means for configuring the VLANs such that all of the hosts belong to the same IP subnet (Column 6, Lines 58-67). (All uplink traffic form the hosts must pass though the router, as direct communication among the hosts is prohibited by the isolated uplink VLAN status [Column 6, Lines 58-67].)

*Edsall* fails to disclose a means for configuring the access router to perform as an Address Resolution Protocol proxy and a means for performing intra-subnet routing, thereby forcing the at least one switch to route traffic from the hosts through the access router and the access network. In the same field of endeavor, The Cisco 7600 Optical Services Router Software Command Reference ("The 7600 command reference") discloses a means for configuring the access router to perform as an Address Resolution Protocol proxy and a means for performing intra-subnet routing, thereby forcing the at least one switch to route traffic from the hosts through the access router and the access network (ip local-proxy-arp command, Pages 28-29). (The local-proxy-ARP command is used to forward traffic between hosts on the same subnet when no routing is normally required.)

Therefore, since the 7600 command reference discloses the use of a local proxy ARP to enable communications between hosts on the same subnet that are otherwise unable to communicate, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the local proxy ARP of the 7600 command reference into the teachings of *Edsall* to thereby enable the forced routing of inter-host traffic through the router. The local proxy ARP of the 7600 command reference can be combined with the system of *Edsall* by setting up the VLANs as specified by *Edsall*, such that all traffic to and from the hosts is forced through the router, and then using local proxy ARP as taught by the 7600 command reference to enable communications between the different hosts. The motive to combine is to allow communication among the hosts.

**Regarding claim 2**, *Edsall* discloses a method wherein said hosts comprise all hosts connected to the access network (Figure 1 - All Users [Elements 122, 126, 132, 136] are connected to the L2 Switch via Isolated VLAN ports).

**Regarding claim 3**, *Edsall* discloses a method wherein the at least one switch includes means further comprising, defining in the switches, one asymmetric uplink VLAN for carrying uplink traffic from said hosts to the access router, said uplink VLAN being common to said hosts connected to the access network (Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2). (All hosts in figure 1 are assigned to a single isolated uplink VLAN [Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2]. The VLAN carries traffic coming from the hosts and going to the access router, therefore, the asymmetric VLAN is for carrying uplink traffic from the hosts to the access router.)

**Regarding claim 4**, *Edsall* discloses a method further comprising, defining in the switches in the fixed access network, one uplink VLAN for each of said hosts or for each of one or more groups of said hosts, said uplink VLANs for carrying only uplink traffic from said hosts to the access router (Column 7, Lines 39-63). (The system of *Edsall* discloses the use of multiple primary VLANs per outgoing L3 port [Column 7, Lines 39-63 and Figure 5]. Furthermore, *Edsall* discloses that each primary VLAN has a different associated isolated uplink VLAN [Column 7, Lines 39-63 and Figure 5]. Finally, *Edsall* discloses that all users/hosts of a primary VLAN may be assigned to only isolated, and not community ports [Figure 1 - Elements 122, 126, 132, 136]. Therefore, *Edsall* teaches the use of multiple groups of hosts, each group assigned a common isolated uplink VLAN, which is used for carrying traffic from the hosts to the access router.)

**Regarding claim 9**, *Edsall* discloses configuring the VLANs as shared VLANs (Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2). (All hosts in figure 1 are assigned to a single isolated uplink VLAN and a common primary downlink VLAN [Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2].)

**Regarding claim 14**, *Edsall* discloses a system wherein said hosts comprise all hosts connected to the access network (Figure 1 - All Users [Elements 122, 126, 132, 136] are connected to the L2 Switch via Isolated VLAN ports).

**Regarding claim 15**, *Edsall* discloses a system according wherein the at least one switch includes means for configuring one asymmetric uplink VLAN for carrying uplink traffic from the hosts to the access router, said uplink VLAN being common to said hosts (Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2). (All hosts in figure 1 are assigned to a single isolated uplink VLAN [Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2]. The VLAN carries traffic coming from the hosts and going to the access router, therefore, the asymmetric VLAN is for carrying uplink traffic from the hosts to the access router.)

**Regarding claim 16**, *Edsall* discloses a system according wherein the at least one switch is in a fixed access network, and includes means for configuring one uplink VLAN for each of said hosts or for each of one or more groups of said hosts, said uplink VLANs being asymmetric and used for carrying uplink traffic from said hosts to the access router (Column 7, Lines 39-63). (The system of *Edsall* discloses the use of multiple primary VLANs per outgoing L3 port [Column 7, Lines 39-63 and Figure 5]. Furthermore, *Edsall* discloses that each primary VLAN has a different associated isolated uplink VLAN [Column 7, Lines 39-63 and Figure 5]. Finally, *Edsall* discloses that all users/hosts of a primary VLAN may be assigned to only isolated, and not community ports [Figure 1 - Elements 122, 126, 132, 136]. Therefore, *Edsall* teaches the use of multiple groups of hosts, each group assigned a common isolated uplink VLAN, which is used for carrying traffic from the hosts to the access router.)

**Regarding claim 20**, *Edsall* discloses a wherein the at least one switch includes means for configuring the VLANs as shared VLANs (Column 4, Lines 39-45 and Claim 1 and Figures 1

and 2). (All hosts in figure 1 are assigned to a single isolated uplink VLAN and a common primary downlink VLAN [Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2].)

4. **Claims 5 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Edsall*, et al. (US Patent No. 6,741,592 B1) and The Cisco 7600 Optical Services Router Software Command Reference (Author Unknown, The Cisco 7600 Optical Services Router Software Command Reference, 31 December 2001, Pages 28-29) as applied to claims 26 and 27 and further in view of *Lou*, et al. (US Pre Grant Publication No. 2007/0201494 A1).

**Regarding claim 5,** *Edsall* discloses a method further comprising configuring in the switches in a fixed access network, one uplink VLAN for each of said hosts or for each of one or more groups of said hosts, said uplink VLANs being used for carrying uplink traffic from said hosts to the access router (Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2). (All hosts in figure 1 are assigned to a single isolated uplink VLAN [Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2]).

*Edsall* fails to disclose configuring the uplink VLANs to also carry downlink unicast traffic from the access router to the hosts. In the same field of endeavor, *Lou* discloses the uplink VLANs to also carry downlink unicast traffic from the access router to the host (Paragraphs 0013-0019 and 0115 and Figure 23). (The system of *Lou* utilizes a two-tiered VLAN scheme, just as the system of *Edsall*. Each Power termination module port is associated with a Primary VLAN and each gateway/host is associated with a secondary VLAN ID [Paragraph 0015]. Therefore, each power line termination module port receives traffic destined only for its Primary VLAN and then forwards the traffic on the appropriate secondary VLAN according to the destination Host [Paragraphs 0015 and 0018]. Furthermore, this VLAN setup prevents

communications between hosts that does not flow thorough a layer 3 router, as packets from a host are received at the termination module on a secondary VLAN that does not match that of any other host on the network, converted to the primary VLAN for the power line termination module's port and transmitted to the router. Finally, the system of *Lou* discloses a broadcast overlay VLAN common to all gateways/hosts [Paragraph 0016].)

Therefore since *Lou* discloses the use of a single VLAN per device with a separate broadcast VLAN, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the single and broadcast VLANs of *Lou* into the teachings of *Edsall*. The single and broadcast VLANs of *Lou* can be combined with the system of *Edsall* by implementing a separate uplink and downlink VLAN for each host as taught by *Lou*. Then each distribution switch [Synonymous with the power line termination module of *Lou*] of *Edsall* [Figure 8, Elements 802, 804] can maintain a separate primary VLAN for each communication port to a different access switch [Synonymous with the power line gateway/host *Lou*] and can further strip the primary VLAN and substitute the appropriate secondary VLAN as taught by *Lou*. Finally, a common broadcast downlink VLAN can be established to allow broadcast traffic to reach each power line gateway/host as taught by *Lou*. The motive to combine is to allow broadcasting to all hosts using a common VLAN while still maintaining VLAN separation for non-broadcast traffic.

**Regarding claim 17**, *Edsall* discloses a system wherein the at least one switch is in a fixed access network, and includes means for configuring one uplink VLAN for each of said hosts or for each of one or more groups of said hosts, said uplink VLANs used for carrying uplink traffic from said hosts to the access router (Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2). (All hosts in figure 1 are assigned to a single isolated uplink VLAN [Column 4, Lines 39-45 and Claim 1 and Figures 1 and 2]).

*Edsall* fails to disclose a system including means for configuring one uplink VLAN for each of said hosts or for each of one or more groups of said hosts, said uplink VLANs used for carrying uplink traffic from said hosts to the access router and for carrying downlink unicast traffic from the access router to the hosts. In the same field of endeavor, *Lou* discloses a system including means for configuring one uplink VLAN for each of said hosts or for each of one or more groups of said hosts, said uplink VLANs used for carrying uplink traffic from said hosts to the access router and for carrying downlink unicast traffic from the access router to the hosts (Paragraphs 0013-0019 and 0115 and Figure 23). (The system of *Lou* utilizes a two-tiered VLAN scheme, just as the system of *Edsall*. Each Power termination module port is associated with a Primary VLAN and each gateway/host is associated with a secondary VLAN ID [Paragraph 0015]. Therefore, each power line termination module port receives traffic destined only for its Primary VLAN and then forwards the traffic on the appropriate secondary VLAN according to the destination Host [Paragraphs 0015 and 0018]. Furthermore, this VLAN setup prevents communications between hosts that does not flow thorough a layer 3 router, as packets from a host are received at the termination module on a secondary VLAN that does not match that of any other host on the network, converted to the primary VLAN for the power line termination module's port and transmitted to the router. Finally, the system of *Lou* discloses a broadcast overlay VLAN common to all gateways/hosts [Paragraph 0016].)

Therefore since *Lou* discloses the use of a single VLAN per device with a separate broadcast VLAN, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the single and broadcast VLANs of *Lou* into the teachings of *Edsall*. The single and broadcast VLANs of *Lou* can be combined with the system of *Edsall* by implementing a separate uplink and downlink VLAN for each host as taught by *Lou*. Then each distribution switch [Synonymous with the power line termination module of *Lou*] of *Edsall* [Figure

8, Elements 802, 804] can maintain a separate primary VLAN for each communication port to a different access switch [Synonymous with the power line gateway/host *Lou*] and can further strip the primary VLAN and substitute the appropriate secondary VLAN as taught by *Lou*. Finally, a common broadcast downlink VLAN can be established to allow broadcast traffic to reach each power line gateway/host as taught by *Lou*. The motive to combine is to allow broadcasting to all hosts using a common VLAN while still maintaining VLAN separation for non-broadcast traffic.

5. **Claims 6, 7, 8, 18 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Edsall*, et al. (US Patent No. 6,741,592 B1) and The Cisco 7600 Optical Services Router Software Command Reference (Author Unknown, The Cisco 7600 Optical Services Router Software Command Reference, 31 December 2001, Pages 28-29) as applied to claims 26 and 27 and further in view of *Thompson*, et al. (US Pre Grant Publication No. 2002/0022483).

**Regarding claim 6,** *Edsall* discloses a method further comprising, defining in the switches in an access network, one uplink VLAN for each switch or for each of one or more groups of switches, said uplink VLANs for carrying uplink traffic from the switches and the hosts connected to the switches to the access router (Column 7, Lines 39-63, Column 8, Line 64 to Column 9, line 58 and Figure 8). (The system of *Edsall* discloses the use of multiple primary VLANs per outgoing L3 port [Column 7, Lines 39-63 and Figure 5]. Furthermore, *Edsall* discloses that each primary VLAN has a different associated isolated uplink VLAN [Column 7, Lines 39-63 and Figure 5]. Finally, *Edsall* discloses that all users/hosts of a primary VLAN may be assigned to only isolated, and not community ports [Figure 1 - Elements 122, 126, 132, 136]. Therefore, *Edsall* teaches the use of multiple groups of hosts, each group assigned a common isolated uplink VLAN, which is used for carrying traffic from the hosts to the access router. The

system of *Edsall* further discloses that the isolated VLAN system may be extended to a multiple switch system. In the multiple switch system, the isolated VLAN is carried from the L2 access switch to the L2 distribution switch [Column 8, Line 64 to Column 9, line 58]. Therefore, the isolated VLANs span the switches and carry traffic from the switches and hosts to the access router.)

*Edsall* fails to disclose a method wherein the network includes a Wireless LAN and that the layer 2 distribution switch is an access point such that the method defines in the switches in the WLAN access network, one uplink VLAN for each Access Point (AP) or for each of one or more groups of APs, said uplink VLANs for carrying uplink traffic from the APs and the hosts connected to the APs to the access router. In the same field of endeavor, *Thompson* discloses a method wherein the network includes a Wireless LAN and that the layer 2 distribution switch is an access point such that the method defines in the switches in the WLAN access network, one uplink VLAN for each Access Point (AP) or for each of one or more groups of APs, said uplink VLANs for carrying uplink traffic from the APs and the hosts connected to the APs to the access router. (The system of *Thompson* discloses that access points may implement multiple VLANs on the wireless access medium by use of a different BSSID for each VLAN [Paragraphs 0164-0174]. Furthermore, *Thompson* discloses that an access point is also a switching device as it switches communications between the non-wireless port and the wireless port [Paragraphs 0170-0178].)

Therefore, since *Thompson* discloses the use of an access point as a VLAN enabled layer switch, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the VLAN enabled access point switch of *Thompson* into the teachings of *Edsall*. The VLAN enabled access point switch of *Thompson* can be combined with the system of *Edsall* by implementing the switch and the appurtenant uplink and downlink VLANs of

*Edsall* by using the VLAN enabled access point switch of *Thompson*. The motive to combine is to allow the network to be accessed wirelessly using the same security features as available in the wired network.

**Regarding claim 7,** *Edsall* discloses a method further comprising, configuring switches in a network to prevent hosts connected to the same AP from communicating directly with each other through the switch by extending the downlink VLAN and the uplink VLAN to incorporate the switch (Column 7, Lines 39-63, Column 8, Line 64 to Column 9, line 58 and Figure 8). (The system of *Edsall* discloses the use of multiple primary VLANs per outgoing L3 port [Column 7, Lines 39-63 and Figure 5]. Furthermore, *Edsall* discloses that each primary VLAN has a different associated isolated uplink VLAN [Column 7, Lines 39-63 and Figure 5]. Finally, *Edsall* discloses that all users/hosts of a primary VLAN may be assigned to only isolated, and not community ports [Figure 1 - Elements 122, 126, 132, 136]. Therefore, *Edsall* teaches the use of multiple groups of hosts, each group assigned a common isolated uplink VLAN, which is used for carrying traffic from the hosts to the access router. The system of *Edsall* further discloses that the isolated VLAN system may be extended to a multiple switch system. In the multiple switch system, the isolated VLAN is carried from the L2 access switch to the L2 distribution switch [Column 8, Line 64 to Column 9, line 58]. Therefore, the isolated VLANs span the switches and carry traffic from the switches and hosts to the access router.)

*Edsall* fails to disclose a method further comprising, configuring Access Points in a WLAN to prevent hosts connected to the same AP from communicating directly with each other through the AP by extending the downlink VLAN and the uplink VLAN to incorporate the AP or by utilizing the inherent configuration abilities of the AP. In the same field of endeavor, *Thompson* discloses a method further comprising, configuring Access Points in a WLAN to prevent hosts connected to the same AP from communicating directly with each other through

the AP by extending the downlink VLAN and the uplink VLAN to incorporate the AP or by utilizing the inherent configuration abilities of the AP. (The system of *Thompson* discloses that access points may implement multiple VLANs on the wireless access medium by use of a different BSSID for each VLAN [Paragraphs 0164-0174]. Furthermore, *Thompson* discloses that an access point is also a switching device as it switches communications between the non-wireless port and the wireless port [Paragraphs 0170-0178].)

Therefore, since *Thompson* discloses the use of an access point as a VLAN enabled layer switch, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the VLAN enabled access point switch of *Thompson* into the teachings of *Edsall*. The VLAN enabled access point switch of *Thompson* can be combined with the system of *Edsall* by implementing the switch and the appurtenant uplink and downlink VLANs of *Edsall* by using the VLAN enabled access point switch of *Thompson*. The motive to combine is to allow the network to be accessed wirelessly using the same security features as available in the wired network.

**Regarding claim 8,** *Edsall* discloses providing in the switches, VLAN tags for the frames sent from the hosts to the access router and configuring the access router to be VLAN aware (Column 7, Lines 39-63, Column 8, Line 64 to Column 9, line 58 and Figure 8). (The system of *Edsall* assigns the primary VLAN to packets exiting the switch towards that access router [Column 8, Line 64 to Column 9, line 58 and Figure 8]. The router is VLAN aware, as it is capable of distinguishing between multiple primary VLANs per port and transmitting data on the appropriate primary VLAN [Column 7, Lines 39-63].)

**Regarding claim 18,** *Edsall* discloses a system wherein the at least one switch is in an access network, and includes means for configuring one uplink VLAN for each switch or for each of one or more groups of switches, said uplink VLANs for carrying uplink traffic from the

switches to the access router (Column 7, Lines 39-63, Column 8, Line 64 to Column 9, line 58 and Figure 8). (The system of *Edsall* discloses the use of multiple primary VLANs per outgoing L3 port [Column 7, Lines 39-63 and Figure 5]. Furthermore, *Edsall* discloses that each primary VLAN has a different associated isolated uplink VLAN [Column 7, Lines 39-63 and Figure 5]. Finally, *Edsall* discloses that all users/hosts of a primary VLAN may be assigned to only isolated, and not community ports [Figure 1 - Elements 122, 126, 132, 136]. Therefore, *Edsall* teaches the use of multiple groups of hosts, each group assigned a common isolated uplink VLAN, which is used for carrying traffic from the hosts to the access router. The system of *Edsall* further discloses that the isolated VLAN system may be extended to a multiple switch system. In the multiple switch system, the isolated VLAN is carried from the L2 access switch to the L2 distribution switch [Column 8, Line 64 to Column 9, line 58]. Therefore, the isolated VLANs span the switches and carry traffic from the switches and hosts to the access router.)

*Edsall* fails to disclose a system wherein the network includes a Wireless LAN and that the layer 2 distribution switch is an access point such that the system is configured such that the at least one switch is in a WLAN access network, and includes means for configuring one uplink VLAN for each Access Point or for each of one or more groups of APs, said uplink VLANs for carrying uplink traffic from the APs to the access router. In the same field of endeavor, *Thompson* discloses a system wherein the network includes a Wireless LAN and that the layer 2 distribution switch is an access point such that the system is configured such that the at least one switch is in a WLAN access network, and includes means for configuring one uplink VLAN for each Access Point or for each of one or more groups of APs, said uplink VLANs for carrying uplink traffic from the APs to the access router. (The system of *Thompson* discloses that access points may implement multiple VLANs on the wireless access medium by use of a different BSSID for each VLAN [Paragraphs 0164-0174]. Furthermore, *Thompson* discloses that an

access point is also a layer 2 switch device as it switches communications between the non-wireless port and the wireless port [Paragraphs 0170-0178].)

Therefore, since *Thompson* discloses the use of an access point as a VLAN enabled layer switch, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the VLAN enabled access point switch of *Thompson* into the teachings of *Edsall*. The VLAN enabled access point switch of *Thompson* can be combined with the system of *Edsall* by implementing the switch and the appurtenant uplink and downlink VLANs of *Edsall* by using the VLAN enabled access point switch of *Thompson*. The motive to combine is to allow the network to be accessed wirelessly using the same security features as available in the wired network.

**Regarding claim 19,** *Edsall* discloses a system wherein the access router is VLAN aware, and the at least one switch includes means for providing VLAN tags for the frames sent from the hosts to the access router (Column 7, Lines 39-63, Column 8, Line 64 to Column 9, line 58 and Figure 8). (The system of *Edsall* assigns the primary VLAN to packets exiting the switch towards that access router [Column 8, Line 64 to Column 9, line 58 and Figure 8]. The router is VLAN aware, as it is capable of distinguishing between multiple primary VLANs per port and transmitting data on the appropriate primary VLAN [Column 7, Lines 39-63].)

1. **Claims 10, 11, 21 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Edsall*, et al. (US Patent No. 6,741,592 B1) and The Cisco 7600 Optical Services Router Software Command Reference (Author Unknown, The Cisco 7600 Optical Services Router Software Command Reference, 31 December 2001, Pages 28-29) as applied to claims 26 and 27 and further in view of *Sistanizadeh*, et al. (US Patent No. 6,101,182).

**Regarding claim 10** *Edsall* does not disclose a method comprising retrieving by the access router address mapping information for the hosts during the user authentication procedure. In the same field of endeavor, *Sistanizadeh* discloses a method comprising retrieving by the access router address mapping information for the hosts during the user authentication procedure (Figure 1, Element address mapping information for the hosts during the user authentication procedure (Column 18, Lines 4-9).

Therefore, since *Sistanizadeh* suggests the retrieving of address mapping information by the access router during authentication, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a method and apparatus for retrieving of address mapping information by the access router during authentication as disclosed by *Sistanizadeh* into the teachings of *Edsall*. The address mapping of *Sistanizadeh* can be combined with the system of *Edsall* by having the router of *Edsall* return the IP address assigned to the user during user authentication, as taught by *Sistanizadeh*. The motive to combine is to enable the use of address assignment and authentication, thereby improving security.

**Regarding claim 11** *Edsall* does not disclose method comprising retrieving, by the access routers, address mapping information for the hosts during the IP allocation procedure. In the same field of endeavor, *Sistanizadeh* discloses method comprising retrieving by the access router (Figure 1, Element address mapping information for the hosts during the during the IP allocation procedure (Column 18, Lines 4-9).

Therefore, since *Sistanizadeh* suggests the retrieving of address mapping information by the access router during authentication, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a method and apparatus for retrieving of address mapping information by the access router during authentication as disclosed by *Sistanizadeh* into the teachings of *Edsall*. The address mapping of *Sistanizadeh* can be combined with the

system of *Edsall* by having the router of *Edsall* return the IP address assigned to the user during user authentication, as taught by *Sistanizadeh*. The motive to combine is to enable the use of address assignment and authentication, thereby improving security.

**Regarding claim 21** *Edsall* does not disclose a system wherein the access router includes means for retrieving address mapping information for the hosts during a user authentication procedure. In the same field of endeavor, *Sistanizadeh* discloses a system wherein the access router includes means for retrieving address mapping information for the hosts during a user authentication procedure (Figure 1, Element address mapping information for the hosts during the user authentication procedure (Column 18, Lines 4-9).

Therefore, since *Sistanizadeh* suggests the retrieving of address mapping information by the access router during authentication, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a method and apparatus for retrieving of address mapping information by the access router during authentication as disclosed by *Sistanizadeh* into the teachings of *Edsall*. The address mapping of *Sistanizadeh* can be combined with the system of *Edsall* by having the router of *Edsall* return the IP address assigned to the user during user authentication, as taught by *Sistanizadeh*. The motive to combine is to enable the use of address assignment and authentication, thereby improving security.

**Regarding claim 22** *Edsall* does not disclose a system wherein the access router includes means for retrieving address mapping information for the hosts during an IP allocation procedure. In the same field of endeavor, *Sistanizadeh* discloses a system wherein the access router includes means for retrieving address mapping information for the hosts during an IP allocation procedure (Column 18, Lines 4-9).

Therefore, since *Sistanizadeh* suggests the retrieving of address mapping information by the access router during authentication, it would have been obvious to one of ordinary skill in

the art at the time of the invention to apply a method and apparatus for retrieving of address mapping information by the access router during authentication as disclosed by *Sistanizadeh* into the teachings of *Edsall*. The address mapping of *Sistanizadeh* can be combined with the system of *Edsall* by having the router of *Edsall* return the IP address assigned to the user during user authentication, as taught by *Sistanizadeh*. The motive to combine is to enable the use of address assignment and authentication, thereby improving security.

6. **Claims 12 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Edsall*, et al. (US Patent No. 6,741,592 B1) and The Cisco 7600 Optical Services Router Software Command Reference (Author Unknown, The Cisco 7600 Optical Services Router Software Command Reference, 31 December 2001, Pages 28-29) as applied to claims 26 and 27 and further in view of *Yamaya*, et al. (US Pre Grant Publication No. 2002/0184387).

**Regarding claim 12** *Edsall* does not disclose providing more than one access router in the access network, the VLANs being configured such that the access routers belong to the same VLANs. In the same field of endeavor, *Yamaya* discloses providing more than one access router in the access network, the VLANs being configured such that the access routers belong to the same VLANs (Figure 15, Elements 10 and 11 and Paragraph 0131).

Therefore, since *Yamaya* suggests the use of redundant routers on the same VLAN it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a method and apparatus for the use of redundant routers on the same VLAN as disclosed by *Yamaya* into the teachings of *Edsall*. The redundant router of *Yamaya* can be combined with the system of *Edsall* by providing multiple routers connected to different ports of the switch of *Edsall* each operating on the same VLANs to provide redundancy, as taught by *Yamaya*. The motive to

combine is provided by *Yamaya* and is to provide backup in case one router fails (Paragraph 0002).

**Regarding claim 23** *Edsall* does not disclose a system wherein more than one access router is provided in the system, and the at least one switch includes means for configuring the VLANs such that the access routers belong to the same VLANs. In the same field of endeavor, *Yamaya* discloses a system wherein more than one access router is provided in the system, and the at least one switch includes means for configuring the VLANs such that the access routers belong to the same VLANs (Figure 15, Elements 10 and 11 and Paragraph 0131).

Therefore, since *Yamaya* suggests the use of redundant routers on the same VLAN it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a method and apparatus for the use of redundant routers on the same VLAN as disclosed by *Yamaya* into the teachings of *Edsall*. The redundant router of *Yamaya* can be combined with the system of *Edsall* by providing multiple routers connected to different ports of the switch of *Edsall* each operating on the same VLANs to provide redundancy, as taught by *Yamaya*. The motive to combine is provided by *Yamaya* and is to provide backup in case one router fails (Paragraph 0002).

***Response to Amendment***

6. Applicant's arguments filed 26 August 2008 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 2-4, 8-11, 14-16, 19-22, 26 and 27 have been considered but are moot in view of the new ground(s) of rejection.

As to applicants argument with respect to claims 5 and 17, the examiner points out that applicants characterization that the VLANs of *Lou* exist only to avoid crosstalk is incorrect, as *Lou* notes that the VLANs exist to ensure user privacy (See Paragraphs 0019 and 0167 – See also rejection of claims 5 and 17, supra).

As to applicants argument with respect to claims 6-7 and 18 the examiner points out that the examiner does not rely on the system of *Thompson* to provide a specific VLAN configuration, but merely to show a VLAN enabled Access Point - it is the system of *Edsall* that is relied upon to provide the specific VLAN configuration to be utilized by the Access Point (For further information see the rejection of claims 6, 7, and 18, Supra).

As to applicants argument with respect to claims 12 and 23 examiner points out that the examiner does not rely on the system of *Sistanizadeh* to provide a specific VLAN configuration, but merely to show a VLAN enabled backup router - it is the system of *Edsall* that is relied upon to provide the specific VLAN configuration to be utilized by the backup router (For further information see the rejection of claims 12 and 23, Supra).

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Crutchfield whose telephone number is (571) 270-3989. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Ryman can be reached on (571) 272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Crutchfield/
Examiner, Art Unit 2419
11/29/2008

/Daniel J. Ryman/
Supervisory Patent Examiner, Art Unit 2419